UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,085	04/04/2001	Matthew Bunkley Trevathan	RSW920010072US1	3871

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EXAMINER
ENCARNACION, YAMIR

ART UNIT	PAPER NUMBER
2186	3

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 April 2001_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-8_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _2_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over *LSAM*

Configurable Cache Replacement Policies (LSAM Configurable Cache Replacement Policies,

[Online] http://www.isi.edu/lsam/proxy/0.71/README.lsam-caching, 1998), and *LSAM Dynamic*

Cache Control (LSAM Dynamic Cache Control, [Online] http://www.isi.edu/lsam/dynamic-

cache/, 1998) in view of *Serpanos* (Serpanos et al. Caching Web Objects using Zipf's Law.

Multimedia Storage and Archiving Systems III, Proceedings of SPIE (Conference), Boston, Nov.

2-4, 1998 Proceedings of SPIE, vol. 3527, pp 320-6).

Claimed	The LSAM documents cited
1. A method for managing a cache, comprising the acts of: analyzing information stored in a caching profile;	*LSAM Dynamic Cache Control* discloses of selecting a replacement algorithm "based on current usage conditions" and "based on proxy usage." *LSAM Dynamic Cache Control* also discloses of analyzing efficiency by monitoring "request patterns [] in order to determine replacement policies." *LSAM Configurable Cache Replacement Policies* discloses that "[m]echanisms will be in place to collect data about the usage of the cache and server."

responsive to the act of analyzing, selecting a preferred caching algorithm from a plurality of caching algorithms; and	*LSAM Dynamic Cache Control* discloses that the "LSAM proxy is capable of selecting an optimal replacement policy for the cache based on proxy usage." *LSAM Configurable Cache Replacement Policies* discloses of a modification to LSAM "to allow a new caching algorithm to be selected by the server administrator or the server itself at run-time based on usage observations."
determining whether a file should be included in a cache according to the preferred caching algorithm.	While not explicitly stated, it would have been obvious to a person of ordinary skill in the art that -- once a cache replacement policy was selected -- the determination of what files to include in the cache would have depended on the selected replacement policy.

In the alternative, as to the limitation of "determining whether a file should be included in a cache according to the preferred caching algorithm," *Serpanos* discloses on page 325 of a caching scheme that includes an object in the cache only if the frequency of the non-cached object

becomes higher than the frequency of the Least Frequently Used object in the cache. A person of

ordinary skill in the art would have been motivated to include the caching scheme described by

Serpanos in the group of algorithms supported by LSAM for the purpose of achieving high cache

hit rates. Accordingly, it would have been obvious to a person of ordinary skill in the art to

include the caching scheme described by *Serpanos* in the group of algorithms supported by LSAM

because the LSAM/*Serpanos* combination would have achieved high cache hit rates.

As to claim 2, the means via which the LSAM documents cited analyzed the usage data reads on

the claimed "predictive modeling engine." Also, it is noted that *Serpanos* explicitly suggests of

using Zipf's function as the basis for prediction. See *Serpanos*, page 325, the second line below

the heading "4. Caching Architectures."

As to claim 3, see the comments for claim 1 above.

As to claim 4, see the comments for claim 2 above.

As to claim 5, the selection of the "optimal replacement policy" would have required the

comparison of metrics for each of the replacement policies available to the proxy. Also, see the

comments for claim 1 above.

3.   Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over *LSAM*

Configurable Cache Replacement Policies, LSAM Dynamic Cache Control, and *Serpanos* as

applied to claim 5 above, and further in view of the admitted prior art in the written description.

         As to claim 8, *LSAM Configurable Cache Replacement Policies* discloses of seven

replacement policies. The replacement policies in *LSAM Configurable Cache Replacement*

Policies do not include the least used caching algorithm, the most used caching algorithm, or the most recently used caching algorithm. The written disclosure admits that the least used, the most used, and the most recently used algorithms were known prior to the filing of the present application. See written disclosure, page 2, line 17 thru page 3, line 14; also, see page 6, line 17 thru page 7, line 6. A person of ordinary skill in the art would have found it obvious to incorporate the known most used, most recently used, and least used algorithms into LSAM for the purpose of increasing LSAM's versatility.

As to claim 6, it would have been obvious to a person of ordinary skill in the art that metrics would have been required for the purpose of determining when it was desirable to use the most used and the most recently used algorithms. Such metrics would have read on the claimed "clustering metrics."

As to claim 7, it would have been obvious to a person of ordinary skill in the art that metrics would have been required for the purpose of determining when it was desirable to use the least used and the least recently used algorithms. Such metrics would have read on the claimed "scattering metrics."

Conclusion

Any inquiry concerning this or an earlier communication from the Examiner should be

directed to Yamir Encarnacion by phone at (703) 308-5466.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Matthew Kim, can be reached on (703) 305-3821.

Any formal response to this action intended for entry should be mailed to Commissioner of

Patents and Trademarks, Washington, D.C. 20231 or faxed to (703) 746-7239 and labeled

"FORMAL" or "OFFICIAL."   Any informal or draft communication should be faxed to (703)

746-7240 and labeled "INFORMAL" or "UNOFFICIAL" or "DRAFT" or "PROPOSED" and

followed by a phone call to the Examiner at the above number. Hand-delivered responses should

be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

YEE

Yamir Encarnacion

Patent Examiner

April 7, 2003

MATTHEW KIM
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